

ABSTRACT OF THE DISCLOSURE

A fluid flow device in one embodiment comprising a housing having an aperture or a
5 plurality of apertures therein and in another embodiment a single chamber with a piston
such as a flexible member forming a chamber and a vibratory member for vibrating the
flexible member to simultaneously eject an array of laminar flow fluid vortices that coalesce
with each other to form a larger fluid vortex that can be used for direct cooling or for
inducing circulation of a cooling fluid within an enclosure to cool the components within the
10 system. When used within a closed system the inventor provides a zero net flux device as
the fluid contained within a sealed chamber can be stirred, or mixed, without the introduction
of fresh fluid from the outside the system.